Air Quality Permitting
Statement of Basis

March 5, 2008

Tier I Operating Permit No. T1-050123

Chilco Lake Lumber Company, LLC dba Riley Creek Lumber-Chilco Sawmill, Athol

Facility ID No. 055-00024

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PUBLIC COMMENT

Table of Contents

Acronyms, Units, and Chemical Nomenclature

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EFB	electrified filter bed
EPA	Environmental Protection Agency
gpm	gallons per minute
gr	grain (1 lb = 7,000 grains)
HAPs	Hazardous Air Pollutants
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MACT	Maximum Available Control Technology
MMBtu	Million British thermal units
MBF	1,000 board feet
MMBF	million board feet
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O_3	ozone
OSU	Oregon State University
PM	Particulate Matter
PM_{10}	Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PCWP	Plywood and Composite Wood Products
PSD	Prevention of Significant Deterioration
PTC	Permit to Construct
PTE	Potential to Emit
Riley Creek	Chilco Lake Lumber Company, LLC dba Riley Creek-Chilco Sawmill
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/yr	Tons per year
$\mu g/m^3$	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this draft Tier I operating permit in accordance with IDAPA 58.01.01.362.

The Department of Environmental Quality (DEQ) has reviewed the information provided by Chilco Lake Lumber Company, LLC dba Riley Creek-Chilco Sawmill (Riley Creek) regarding the operation of its facility located in Athol. This information was submitted based on the requirements to submit a Tier I operating permit application in accordance with IDAPA 58.01.01.312.

2. FACILITY DESCRIPTION

Riley Creek produces dimensional lumber. The primary processes at the facility are the sawmill, steam plant (i.e., hog fuel boiler), drying lumber kilns, planermill, and by-products handling.

Logs are stored in the log yard until they can be processed. Logs are debarked, then cut to dimension in the sawmill. Bark from the debarker is hogged and pneumatically transferred to hog fuel storage or to the hog fuel boiler. Surplus bark is sold as a by-product. Green lumber is cut to length in the sawmill, dried in the facility's kilns, and planed in the planermill. The finished lumber is packaged and shipped by truck or by railcar. By-products include bark, sawdust, sawmill chips, planer chips, and shavings.

3. FACILITY / AREA CLASSIFICATION

This facility is a major facility as defined by IDAPA 58.01.01.008.10 because it emits or has the potential to emit a regulated air pollutant (i.e., CO, NO_x, and VOC) in amounts greater than or equal to major facility threshold(s) listed in Subsection 008.10. Refer to Section 6.2 of this document for the emissions inventory of the air pollutants emitted by this facility.

This facility is not a designated facility as defined by IDAPA 58.01.01.006.30.

This facility is not a major facility as defined by IDAPA 58.01.01.205 because it does not emit or have the potential to emit a regulated criteria air pollutant in amounts greater than or equal to 250 tons per year.

The Standard Industrial Classification (SIC) defining the facility is 2421, *Sawmills and Planing Mills*. The Aerometric Information Retrieval System (AIRS) facility classification is A.

The facility is located in Athol, which is classified as unclassifiable for all criteria air pollutants. There is not a Class I area(s) within 10 kilometers (km) of the facility. This facility is located in Air Quality Control Region (AQCR) 62 and Universal Transverse Mercator (UTM) Zone 11.

4. APPLICATION SCOPE

This is the initial Tier I operating permit for the facility. This Tier I operating permit incorporates the PTC No. P-050116, issued September 1, 2005.

5. SUMMARY OF EVENTS

09/30/05	DEQ received application
11/29/05	DEQ determined application complete
10/05/07	DEQ requested additional information in accordance with IDAPA 58.01.01.315
11/06/07	DEQ received supplemental information from Riley Creek

5.1 Permitting History

02/18/04	Permit No. P-030132 was issued to transfer ownership from Louisiana-Pacific Corporation to Chilco Lake Lumber Company LLC.
08/20/04	Permit No. P-040100 was issued to Riley Creek for the construction of a hog fuel boiler with EFB, hog fuel and boiler ash handling equipment, EFB baghouse, natural gas boiler, lumber drying kilns, planer mill, planer chipper, planer chip bin, and planer shavings bin with cyclone and baghouse.
09/01/05	PTC modification No. P-050116 was issued. This PTC replaced PTC Nos. P-040100, issued August 20, 2004 and P-030132, issued February 18, 2004.

6. PERMIT ANALYSIS

6.1 Basis of Analysis

The following documents were relied upon in preparing this memorandum and the Tier I operating permit:

- PTC No. P-050116, issued September 1, 2005
- Tier I operating permit application received September 30, 2005
- Supplemental information received from Riley Creek on November 6, 2007
- Guidance developed by the U.S. Environmental Protection Agency (EPA) and DEQ

6.2 Emissions Description and Emissions Inventory

The emissions from the hog fuel boiler are limited by the steaming rate limits, and PM_{10} emissions are further limited and controlled by a multiclone and an electrified filter bed (EFB) dust collector. The boiler steam rate is limited to 69,360 pounds steam per hour in accordance with PTC No. P-050116 that was issued in September 1, 2005. The CO emissions limits in the Tier I operating permit are taken from PTC No. P-050116 (issued 9/1/05) and are based on emissions factor of 0.81 lbs CO/1,000 lbs steam produced. Compliance with the PM_{10} and CO emissions limits will be determined through performance testing.

The PM_{10}, VOC, and formaldehyde emissions from the kilns are estimated based on throughput limits of green lumber of 325,000 MBF/yr to the kilns, as per PTC No. P-050116, issued in September 1, 2005.

The PM_{10} emissions from the sawmill and the hog fuel cyclone are based on wood-byproduct and the design specifications of the cyclone, respectively, and are documented in the statement of basis of the PTC issued on September 1, 2005.

Emissions limits of PM_{10}, CO, VOC, and formaldehyde that are found in PTC No. P-050116, issued September 1, 2005 are carried over into this Tier I operating permit.

A detailed emissions inventory, as presented by the facility, for criteria air pollutants and the HAPs/TAPs are included in the Tier I operating permit application received by DEQ on September 30, 2005.

Based on the emissions factors that are provided in Table 8.1 of this statement of basis the facility is considered a major source for HAP. Table 8.1 lists the emissions factors for HAPs based on the new Oregon State University (OSU) lumber kilns studies. DEQ used the highest emissions factors in the table and found that emissions of acetaldehyde and methanol each is above the major source threshold for one HAP, which is 10 T/yr.

Table 6.1 below represents the permitted emissions rates of PM_{10}, CO, VOC, and formaldehyde from the sources at the facility. Oxides of nitrogen (NO_x) and SO_2 emissions rates from the hog fuel boiler are also included in the table. In addition, the PM_{10} emissions from the sawmill chip bin target box and the sawdust bin target box are also included in Table 6.1.

Table 6.1 EMISSION INVENTORY - CONTROLLED EMISSIONS

Source	PM_{10}[a]		Nitrogen Oxides		Sulfur Dioxide		Carbon Monoxide		VOC[b]		Formaldehyde[c]	
	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]
Boiler/EFB stack	6.93	30.9	27.5	120.5	3.13	13.7	56.2	246.08	7.75	33.9	---	2.41
EFB baghouse vent	0.23	1.0	---	---	---	---	---	---	---	---	---	---
Dry Kilns (combined emissions)	4.08	17.88	---	---	---	---	---	---	40.7	175.5		0.65
Sawmill chip bin target box	1.49	6.27	---	---	---	---	---	---	---	---	---	---
Sawdust bin target box	0.63	2.65	---	---	---	---	---	---	---	---	---	---
Fire water pump	0.34	0.26	4.74	3.72	0.31	0.25	1.02	0.80	0.38	0.30	---	---
Total:	13.70	58.96	32.24	124.22	3.44	13.95	57.22	246.88	48.83	209.40		0.65

a) Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
b) Volatile organic compounds
c) Formaldehyde emissions are from PTC No. P-050116, issued September 1, 2005
d) Pounds per hour
e) Tons per year

7. REGULATORY ANALYSIS

7.1 IDAPA 58.01.01.312 – Duty to Apply

This permitting action requires the owner and operator of each Tier I source to submit a timely and complete permit application in accordance with Sections 311 through 315. The application was submitted on September 30, 2005, which is greater than 12 months after becoming a Tier I source or commencing operation, as required in IDAPA 58.01.01.313.01.b. Riley Creek became a Tier I source after the issuance of PTC No. P-040100 in August 20, 2004.

7.2 New Source Performance Standards (NSPS) – 40 CFR 60

40 CFR 60, Subpart Db-Standards for Industrial-Commercial-Institutional Steam Generating Units. In accordance with the Tier I operating permit application, Riley Creek's hog fuel boiler was originally built in 1977 and has not been modified or reconstructed, per NSPS definitions, since June 19, 1984 which is the trigger date for the NSPS Subpart Db. In accordance to this information the hog fuel boiler is not subject to NSPS requirements of Subpart Db.

40 CFR 60, Subpart IIII-Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

This facility does not currently have any stationary ignition internal combustion engines that are subject to NSPS 40 CFR 60, Subpart IIII, according to the application submitted by the facility. If the facility obtains engines in the future that are determined to be exempt from IDAPA 58.01.01 of the Rules, it is possible that NSPS 40 CFR 60, Subpart IIII may still apply. If this is the case, it is the facility's responsibility to comply with NSPS 40 CFR 60, Subpart IIII, even if it is not specifically addressed in the facility's air permit.

7.3 National Emission Standards for Hazardous Air Pollutants (NESHAPS) – 40 CFR Parts 61 & 63

40 CFR 63, Subpart DDDD-Plywood and Composite Wood Products (PCWP). Riley Creek has not been a major source of HAPs in the past. However, new emission factors were developed by Oregon State University test data in early 2007. It was determined from the test data that certain HAPs emissions are much higher than previously thought. Thus, this subpart applies to lumber kilns at any facility that is major source of HAPs, so it applies to this facility. For kilns, only the initial notification requirements in Section 63.9(b) apply. On January 29, 2005 Riley Creek notified EPA of applicability of subpart PCWP. Because the required notification has been made, no permit requirement will be written in this permit.

On June 19, 2007, the D.C. Circuit Court of Appeals vacated and partially remanded a portion of EPA's Maximum Achievable Control Technology (MACT) standards for the PCWP source category. Only the low risk option and the automatic compliance extension to October 1, 2008 were vacated. The initial notification requirements still apply.

NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR 63, Subpart DDDDD-Boiler MACT). This subpart applies to the hog fuel boiler. However, the boiler MACT was vacated on June 8, 2007 while DEQ is issuing this Tier I operating permit. DEQ is not processing 112(j) for the boiler MACT at this time. DEQ will reopen the permit to address this issue in the future when the analysis for the boiler MACT is available.

7.4 Compliance Assurance Monitoring (CAM) – 40 CFR 64

The 40 CFR 64.2, states the following: "…, *the requirements of this subpart shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria: (1) the unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; (2) the unit uses a control device to achieve compliance with any such emission limitation or standard; (3) the unit has a potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, potential pre-control device emissions shall have the same meaning as potential to emit, as defined in 40 CFR 64.1, except that emission reductions achieved by the applicable control device shall not be taken into account.*"

In addition, 40 CFR 64.5 (deadlines for submittal) states the following*:*

"*(a) Large pollutant-specific emissions units, for all pollutant-specific emissions units with potential to emit (taking into account devices to the extend appropriate under the definition of this term in 40 CFR 64.1) the applicable regulated air pollutant in an amount equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, the owner or operator shall submit the information required under 40 CFR 64.4 at the following times:*

(1) On or after April 20, 1998, the owner or operator shall submit information as part of an application for an initial part 70 or 71 permit if, by that date, the application either (i) has not been filed; (ii) has not yet been determined to be complete by the permitting authority

(2) On or after April 20, 1998, the owner or operator shall submit information as part of an application for a significant permit revision under 70 or 71 of this chapter, but only with respect to those pollutant-specific emissions units for which the proposed permit revision is applicable.

(3) The owner or operator shall submit any information not submitted under the deadlines set forth in paragraphs (a)(1) and (2) of this section as part of the application for the renewal of a part 70 or 71 permit.

(b) other pollutant-specific emissions units. For all other pollutant-specific emissions units subject to this part and not subject to 40 CFR 64.5(a), the owner or operator shall submit the information required under 40 CFR 64.4 as part of an application for a renewal of a part 70 or 71 permit."

In accordance with 40 CFR 64.5(b) CAM is not required for this Tier I operating permit because this permitting action is the initial permit for Riley Creek. The potential to emit (PTE) for PM_{10} from the hog fuel boiler is less than 100% in tons per year which is required to classify the facility as a major source, as defined in 40 CFR 64.5(a). The PTE for the PM_{10} emissions from the boiler stack after the control equipment (i.e., EFB) is limited to 30.4 T/yr per PTC No. P-050116, issued September 1, 2005. Therefore, the hog fuel boiler meets the definition of 40 CFR 64.5(b) for *other pollutant-specific emissions units*. However, and in accordance with 40 CFR 64.4, the owner or operator shall submit the information regarding CAM as part of an application for a renewal of the Tier I operating permit.

8. PERMIT CONDITIONS

This section describes the permit conditions that apply to this initial Tier I operating permit. Permit conditions existing in the PTC No.P-050116, issued September 1, 2005 are included in this Tier I operating permit.

8.1 Facility-Wide Conditions

Facility-wide conditions include facility-wide fugitive emissions, odors, visible emissions, fuel burning equipment, fuel sulfur content, open burning, renovation and demolition, accidental release of chemicals, and recycling and emissions reductions. These provisions generally apply for the whole facility.

Should there be a conflict between the facility-wide conditions of this permit (T1-050123) and PTC No. P-050116, issued September 1, 2005, these facility-wide conditions shall govern.

In the Facility-Wide Condition, Permit Condition 2.19 (Planer Shavings Cyclone Baghouse Stack and Planer Chip Target Box Vent) states the following: "*The planer shaving cyclone baghouse stack and the planer chip target box vent shall be routed, configured, or similar to the interior of the planermill*

building such that any emissions are not released to the atmosphere." Permit Condition 2.19 is included in this section of the permit because it is considered an applicable requirement that existed in the facility-wide conditions of the PTC No. P-0500116, issued September 1, 2005 and, therefore, it is carried over to this permit. Emissions from the Planer Shavings Cyclone Baghouse Stack and Planer Chip Target Box Vent are routed to the interior of the planer mill building. Thus, emissions from this building will be assumed to be fugitive emissions and compliance with Permit Condition 2.19 will be determined through Permit Conditions 2.2, 2.3, and 2.4. The Planer Shavings Cyclone Baghouse Stack and Planer Chip Target Box Vent were originally permitted in the PTC No. P-040100, issued August 20, 2004. However, PTC No. P-040100 was replaced by PTC No. P-050116, issued September 1, 2005 and the PM_{10} emissions from these two sources were not included in PTC No. P-050116. The statement of basis of PTC No. P-050116 states the following: "*Riley Creek is currently allowed to construct and operate a planer shavings cyclone and a planer chip target box. Emissions from these two point sources were to be vented to the atmosphere from a baghouse stack and a vent stack, respectively. The allowable PM_{10} emissions from theses two sources are 5.44 T/yr and 0.40 T/yr, respectively. As the Chilco Sawmill was being constructed, Riley Creek decided to vent these point sources through the shavings bin baghouse and back into the interior of the planer mill building to maintain building pressure and recover energy for building heat. As a result of these physical changes, these two point sources no longer exist. The modified permit, however, requires that the planer shavings cyclone baghouse stack and the planer chip target box vent exhaust to the interior of the planer mill building*"

8.2 Hog Fuel Fired Boiler

Emission Unit Description

The hog fuel boiler provides steam to heat the facility's dry kilns and the facility's production buildings. The hog fuel boiler is rated at 75,000 pounds steam per hour, but is limited to 69,360 pounds steam per hour as averaged over any consecutive 24-hour period. In order to increase steam production and remain minor for PSD permitting, Riley Creek requested that DEQ impose in PTC No. P-050116, issued September 1, 2005 an enforceable limit of 0.81 lb CO/1,000 lb steam produced.

Emissions resulting from combustion of hog fuel boiler are first routed to a high efficiency multiclone. The multiclone is the primary PM emission control device. Ash and partially combusted wood fiber removed by the multiclone are then segregated by a classifier. From the classifier, partially combusted wood fiber is reintroduced back into the boiler firebox, and the ash is removed for disposal. After the multiclone, the uncontrolled fine dust and smoke particles are collected in the EFB dust collector. The cleaned air stream is vented through the boiler's EFB stack. When the EFB dust collector is cleaned, the dust-laden air stream is vented to the EFB baghouse. Emissions exiting the EFB baghouse exit to the atmosphere through the EFB baghouse vent.

Permit Conditions 3.1 and 3.2

Compliance with the PM_{10} NAAQS was demonstrated at the controlled emissions rates. The PM_{10} emissions rates in Permit Conditions 3.1 and 3.2 from the EFB stack and from the EFB baghouse stack corresponds to the emissions rates used in the model to demonstrate compliance with the NAAQS in the PTC No. P-050116, issued September 1, 2005. Compliance with the PM_{10} emissions limits will be determined through Permit Conditions 3.7 (boiler steam production monitoring) and 3.12 (PM_{10} compliance test). Subsequent PM_{10} compliance tests will be conducted in accordance to a schedule provided in Permit Condition 3.12. Compliance with Permit Conditions 3.2 can be demonstrated by limiting the steam production of the boiler as indicated in Permit Condition 3.7. In addition, Permit Conditions 3.13 requires the permittee to monitor and record the average hourly steam production over any consecutive 24-hour average for compliance the PM_{10} hourly emissions limits.

Permit Condition 3.3

Permit condition 3.3 contains requirements for carbon monoxide (CO) emissions limits of 0.81 pounds of CO per 1,000 pounds steam produced in the boiler. It also limits the total CO emissions to 246.08 T/yr. The CO emissions limits were included in the PTC No. P-050116, issued September 1, 2005 and are carried over into this Tier I operating permit. Compliance with the CO emissions limits will be determined through Permit Conditions 3.7 (boiler steam production monitoring) and 3.11 (CO compliance test). Subsequent CO compliance tests will be conducted in accordance to a schedule provided in Permit Condition 3.11.

It should be noted that the permittee shall have conducted a compliance test to measure CO emissions from the boiler stack, as required in PTC No. P-050116, issued September 1, 2005. Permit Condition 3.10.1 in PTC No. P-050116 (issued 9/1/05) states the following: "*within 60 days of achieving the maximum production rate, but not later than 180 days after issuance of this permit, the permittee shall have conducted a performance test to measure CO emissions from the hog fuel boiler to demonstrate compliance with Permit Condition 3.4. The performance test shall be conducted in accordance with Permit Condition 2.11. The results of the performance test shall be expressed in terms of pounds of CO emitted per 1,000 pounds of steam produced (lb CO/1,000 lb steam.)*" Permit Condition 3.4 in PTC No. P-050116 states "*the CO emissions from the boiler/EFB stack shall not exceed 0.81 lb CO/1,000 lb steam produced.*" In accordance to the statement of basis for the PTC No. P-050116, which was published on August 18, 2005 and states the following: "*In order to increase steam production and still remain minor for PSD permitting, Riley Creek has requested that DEQ impose an enforcement limit of 0.81 lb CO/1,000 lb steam produced. Compliance with this new limit will be assessed through performance testing.*" Therefore, since the permittee did not conduct the CO compliance test as mandated by PTC No. P-050116, a CO compliance test is included in this Tier I operating permit to determine compliance with the permitted CO emissions limits of 0.81 lb CO/1,000 lbs steam. The permittee shall have conducted the CO compliance test by 3/1/2006 to reflect the applicable requirement that is mandated by PTC No. P-050116. This CO compliance test is intended to determine compliance with Tier I operating permit condition 3.3.

Note: Because the permittee did not conduct a CO compliance test as mandated by PTC No. P-050116, issued September 1, 2005, it is referred to DEQ's Compliance and Enforcement.

Permit Condition 3.4

Permit Condition 3.4 incorporated Permit Condition 3.5 from PTC No. P-050116, issued September 1, 2005, which sets emissions limits for formaldehyde from the EFB boiler stack. Compliance with formaldehyde emissions limits will be determined through Permit Conditions 3.7 (boiler steam production monitoring).

Permit Condition 3.5

Permit Condition 3.4 incorporated Permit Condition 3.6 from PTC No. P-050116, issued September 1, 2005, which sets emissions limits for PM of 0.08 gr/dscf corrected to 8% oxygen by volume when burning wood product. Compliance with this permit condition is determined through Permit Condition 3.12.

Permit Condition 3.4 and 3.7

Permit Conditions 3.4 and 3.7 incorporated Permit Conditions 3.6 and 3.8 from PTC No. P-050116, issued September 1, 2005. Compliance with these permit conditions are determined through Permit Conditions 3.7, 3.8, 3.9, and 3.17.

8.3 Dry Kilns (5 totals)

Emission Unit Description

The dry kilns are used to dry green lumber. Lumber is dried by the steam produced by the facility's hog fuel boiler. Vents on the dry kilns are opened and closed during batch drying cycles to control temperature and moisture within the kilns. The PM_{10}, HAP, and VOC are emitted to the atmosphere from the dry kiln vents with no control equipment.

Permit Conditions 4.1, 4.2, and 4.3

The PM_{10}, VOC, and formaldehyde emissions limits were established in PTC No. P-050116, issued September 1, 2005. These emissions limits were carried over into this Tier I operating permit. Compliance with the emissions limits are set in the Tier I operating permit by monitoring the monthly and annual lumber throughput from to the kilns as indicated in Permit Conditions 4.5 and 4.6. The annual throughput will be determined by summing each monthly throughput over the previous consecutive 12-month period.

New Kiln Emission Factors

While Riley Creek is currently classified as not major source for HAPs, a recent emissions study conducted at Oregon State University (OSU) on lumber drying kilns indicates that certain HAP emissions are much higher than previously thought. As a result, some facilities that believed their potential to emit (PTE) for HAP emissions were less than the major source thresholds (10 tons or more per year for a single HAP or 25 tons per year or more for a combination of HAPs) may now be a major source of HAPs. In cases where a facility may have its own site-specific HAP source test information, this data may be considered best available data and could be used instead of the OSU data.

Facility potential to emit (PTE) is the maximum capacity of a stationary source (all emission units) to emit a pollutant (in tons per year) under its physical and operational design. Enforceable limits, such as those contained in a permit to construct, can be considered in determining the facility PTE.

Below is a Table 8.1 of the new OSU kiln emission factors.

Table 8.1 KILNS EMISSIONS FACTORS BASED ON OSU'S DATA

Species	Max. Kiln Temp. ºF	Total HAP lb/MMBF	Methanol lb/MMBF	Formaldehyde lb/MMBF	Acetaldehyde lb/MMBF	Propionaldehyde lb/MMBF	Acrolein lb/MMBF
Hemlock	< 200 º F	199.3	82.5	1.24	113	1	1.6
Hemlock	> 200 º F	305	186	3.8	113 (1)	1 (1)	1.6 (1)
Douglas Fir	< 200 º F	97	38	1	57	0.55	0.65
Douglas Fir	> 200 º F	116	57	1 (1)	57 (1)	0.55 (1)	0.65 (1)
White Fir	< 200 º F	240	122	2.8	113 (2)	1 (1)(2)	1.6 (1)(2)
White Fir	> 200 º F	301	183	2.8 (1)	113 (1)(2)	1 (1)(2)	1.6 (1)(2)
Ponderosa Pine (3)	< 200 º F	184	65	2.9	113 (1)(2)	1 (1)(2)	1.6 (1)(2)
Lodgepole Pine (3)	< 200 º F	73.6	55	4	12	1 (1)(2)	1.6 (1)(2)
Lodgepole Pine (3)	> 200 º F	78.6	60	4 (6)	12 (6)	1 (1)(2)	1.6 (1)(2)
Slash Pine (4)	> 200 º F	215	164	4 (5)	44.7	1 (1)(2)	1.6 (1)(2)

(1) assumes emissions of this HAP not temperature dependent. There is insufficient data to know for sure.
(2) assumes emissions are the same as Hemlock.
(3) pine is not normally dried at temperatures > 200º F.
(4) no data for Slash Pine dried < 200º F.
(5) assume to be the same as for Lodgepole Pine.
(6) assumes emissions the same as for Lodgepole Pine dried at < 200 º.

8.4 Sawmill

Emission Unit Description

Logs are debarked and cut into dimensional lumber in the sawmill. As a result of these processes, wood scraps and sawdust are produced. The wood scraps are chipped in a chipper. The fine size material is screened and added to sawdust that is pneumatically conveyed to the sawdust bin target box located on the outdoor sawdust bin. Chips are pneumatically transferred to a sawmill chip bin target box on the outdoor sawmill chip bin.

The sawdust building enclosure controls emissions from the sawing of logs and chipping of wood scrap. No control equipment is associated with particulate emissions from the sawdust chip bin target box and sawdust bin target box.

Permit Conditions 5.1 and 5.2

The PM_{10} emissions limits from the sawmill chip target box and from the sawdust bin target box were established in PTC No. P-050116, issued September 1, 2005. These emissions limits were carried over into this Tier I operating permit. Compliance with the emission limits are set in the Tier I operating permit by monitoring the combined permitted by-product throughput of 356,906 BDT per any consecutive 12-month period. The annual throughput will be determined by summing each monthly throughput over the previous consecutive 12-month period.

8.5 Hog Fuel Cyclone

Emission Unit Description

The hog fuel cyclone is a high pressure cyclone that transfers hog fuel from the hog to storage or to the hog fuel boiler. The hog fuel cyclone includes a filter bag section that controls PM_{10} emissions.

Permit Conditions 6.1 and 6.3

Permit Conditions 6.1 (PM_{10} emissions limits) and 6.3 (operating requirements) from the hog fuel cyclone were established in PTC No. P-050116, issued September 1, 2005. These permit conditions are considered applicable requirements and are carried over into this Tier I operating permit. Compliance with the emission limits and the operating requirements of the cyclone are set in the Tier I operating permit by monitoring the pressure drop of the cyclone, which must be operating within the manufacturer specifications and recommendations. Monitoring of the pressure drop across the hog fuel cyclone will be once per week while the cyclone is operating.

8.6 Nonapplicable Emissions Units

Riley Creek provided in their Tier I operating permit application a nonapplicability determination for New Source Performance Standards (NSPS) Subpart Db, Standard for Industrial-Commercial-Institutional Steam Generating Units. In accordance with the Tier I operating permit application, Riley Creek's hog fuel boiler was originally built in 1977 and has not been modified or reconstructed, per NSPS definitions, since June 19, 1984 which is the trigger date for the NSPS Subpart Db. In accordance to this information the hog fuel boiler is not subject to NSPS requirements of Subpart Db. However, the boiler is subject to the applicable requirements (e.g. opacity, and fuel burning equipment).

9. INSIGNIFICANT ACTIVITIES

The following activities and emissions units are listed in Section 7 of the Tier I operating permit as insignificant activities under IDAPA 58.01.01.317.01.b.i.

Table 9.1 INSIGNIFICANT ACTIVITIES

Description	Insignificant Activities IDAPA 58.01.01.317.01(b)(I) Citation
Sawmill, indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Sawmill screen (classifier), indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Sawmill Bin Truck Loadout	IDAPA 58.01.01.317.01(b)(i)(30)
Sawmill Chip Bin Truck Loadout	IDAPA 58.01.01.317.01(b)(i)(30)
Sawmill chipper, indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Hog Fuel Transfer to Fuel House	IDAPA 58.01.01.317.01(b)(i)(30)
Hog Fuel Truck Bin Loadout	IDAPA 58.01.01.317.01(b)(i)(30)
Planer chipper and Screen	IDAPA 58.01.01.317.01(b)(i)(30)
Planer chip Bin Truck Loadout	IDAPA 58.01.01.317.01(b)(i)(30)
Planer Shavings Bin Truck Loadout	IDAPA 58.01.01.317.01(b)(i)(30)
Fire water pump	IDAPA 58.01.01.317.01(b)(i)(30)
Small generators and compressors	IDAPA 58.01.01.317.01(b)(i)(6)

10. ALTERNATIVE OPERATING SCENARIOS

The facility did not request any alternative operating scenarios.

11. TRADING SCENARIOS

The facility did not request any trading scenarios.

12. COMPLIANCE SCHEDULE

12.1 Compliance Plan

No compliance plan has been developed.

12.2 Compliance Certification

Riley Creek is required to periodically certify compliance in accordance with General Provision 21. The facility shall submit an annual compliance certification for each emissions unit to DEQ and EPA, in accordance with IDAPA 58.01.01.322.11. The compliance certification report shall address the compliance status of each emissions unit with the terms and conditions of this permit.

13. PERMIT REVIEW

13.1 Regional Review of Draft Permit

DEQ provided the draft permit to Coeur d'Alene Regional Office on February 27, 2008. The regional office provided comments on the draft permit on March 6, 2008 and DEQ state program addressed the comments.

13.2 Facility Review of Draft Permit

DEQ provided the draft permit to Riley Creek in Athol for its review on February 26, 2008. The facility provided written comments on the draft permit on March 5, 2008 and DEQ addressed the comments.

13.3 Public Comment

DEQ provided the draft permit for public comment on March 14, 2008. The public comment period was provided from March 15, 2008 through April 14, 2008. States of Montana, Washington, and Coeurd' Alene Indian Reservation are within 50 miles of this Tier I Source and are affected states. As such, notification of the public comment period will be provided as required by IDAPA 58.01.01.364.

14. ACID RAIN PERMIT

This facility is not an affected facility as defined in 40 CFR 72 through 75; therefore, acid rain permit requirements do not apply.

15. REGISTRATION FEES

This facility is a major facility as defined by IDAPA 58.01.01.008.10; therefore, registration and registration fees in accordance with IDAPA 58.01.01.387 apply. The facility is in compliance with registration and registration fee requirements.

HE/hp Permit No. T1-050123

Appendix A – AIRS Data Entry Form

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: Chilco Lake Lumber Company, LLC dba Riley Creek Lumber-Chilco Sawmill
Facility Location: Athol
AIRS Number: 055-00024

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO_2	B						B	U
NO_x	A						A	U
CO	A						A	U
PM_{10}	B						B	U
PT (Particulate)	B						B	
VOC	A						A	U
THAP (Total HAPs)	A						A	
			APPLICABLE SUBPART					
					DDDD			

[a] **Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)**

[b] **AIRS/AFS Classification Codes:**

- **A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.**
- **SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.**
- **B = Actual and potential emissions below all applicable major source thresholds.**
- **C = Class is unknown.**
- **ND = Major source thresholds are not defined (e.g., radionuclides).**